

Figure 1: Major Factors Determining Blood Glucose Dynamics

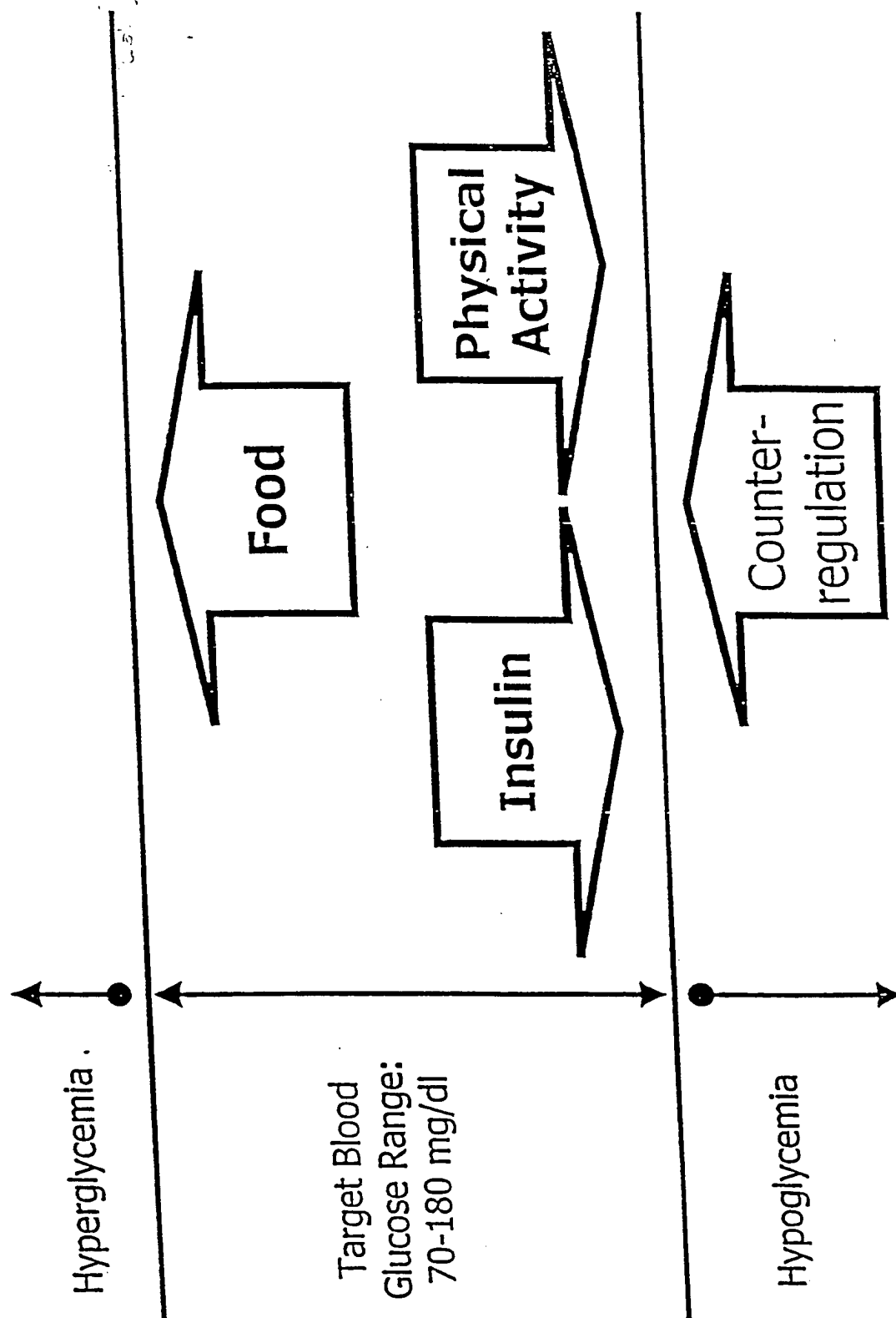


Figure 2: Dynamic Network Model of BG Fluctuations

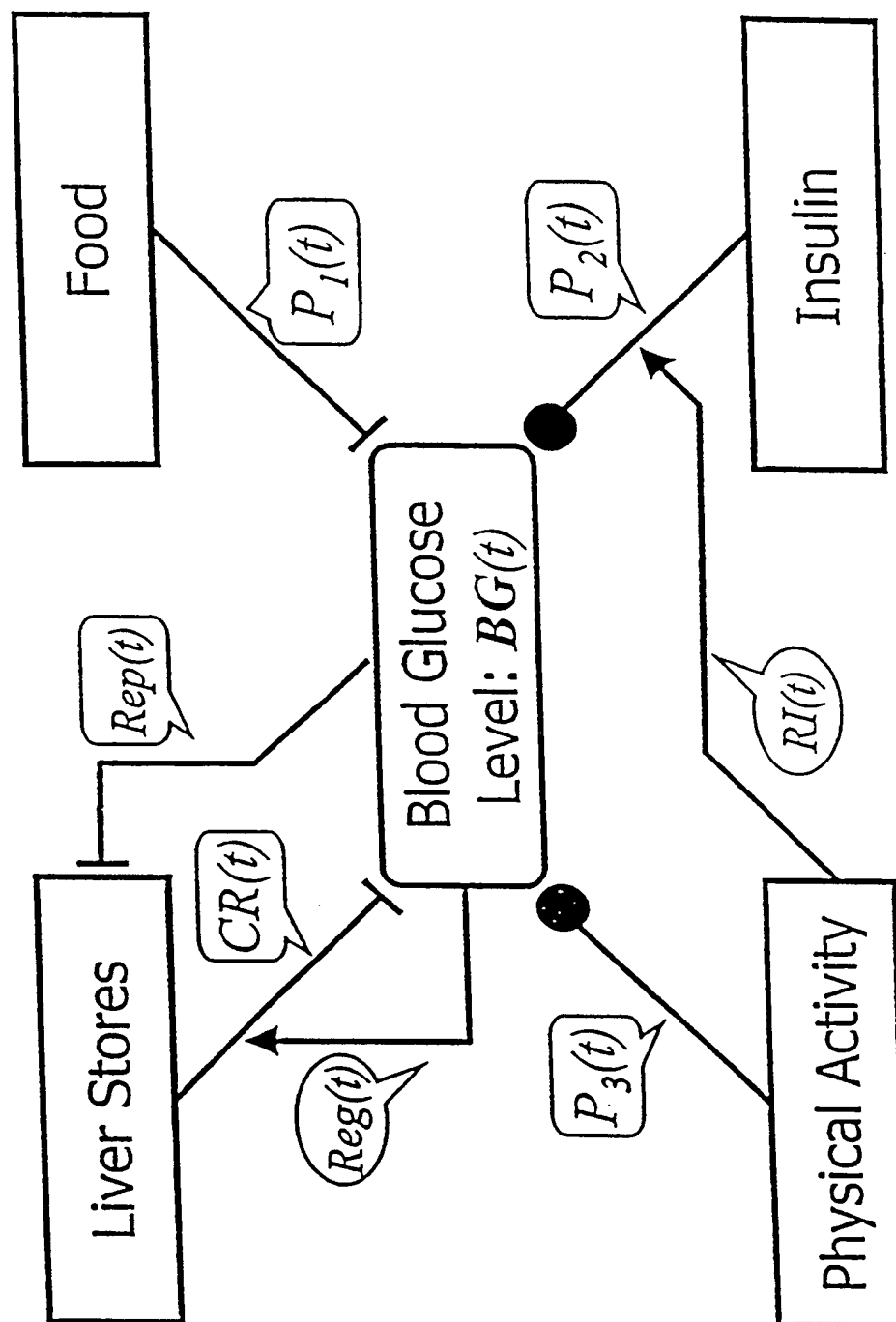
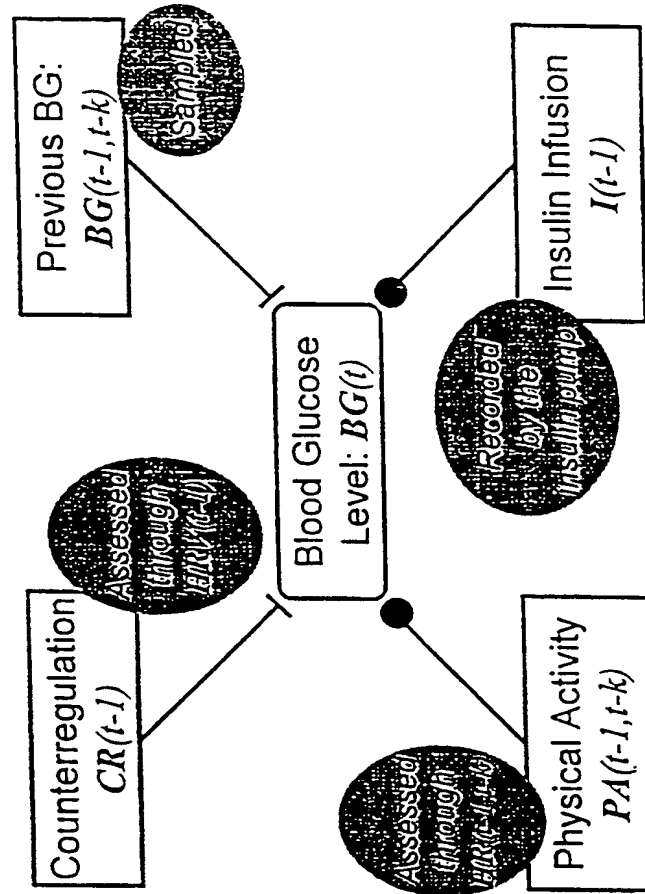


Figure 3: Dynamic Forecast of BG Fluctuations



- A series of previously recorded BG readings at moments of time $t-1, \dots, t-k$ provides a basic trend for future BG fluctuations, and replaces the evaluation of food intake in Figure 11;
- A series of previously recorded HRV values at moments of time $t-1, \dots, t-k$ provides physical activity data;
- Autonomic nervous system activity at a previous moment of time is assessed through HRV;
- Insulin infusion records from the insulin pump provide information for the current insulin action level.

Figure 4: Typical Distribution of BG readings

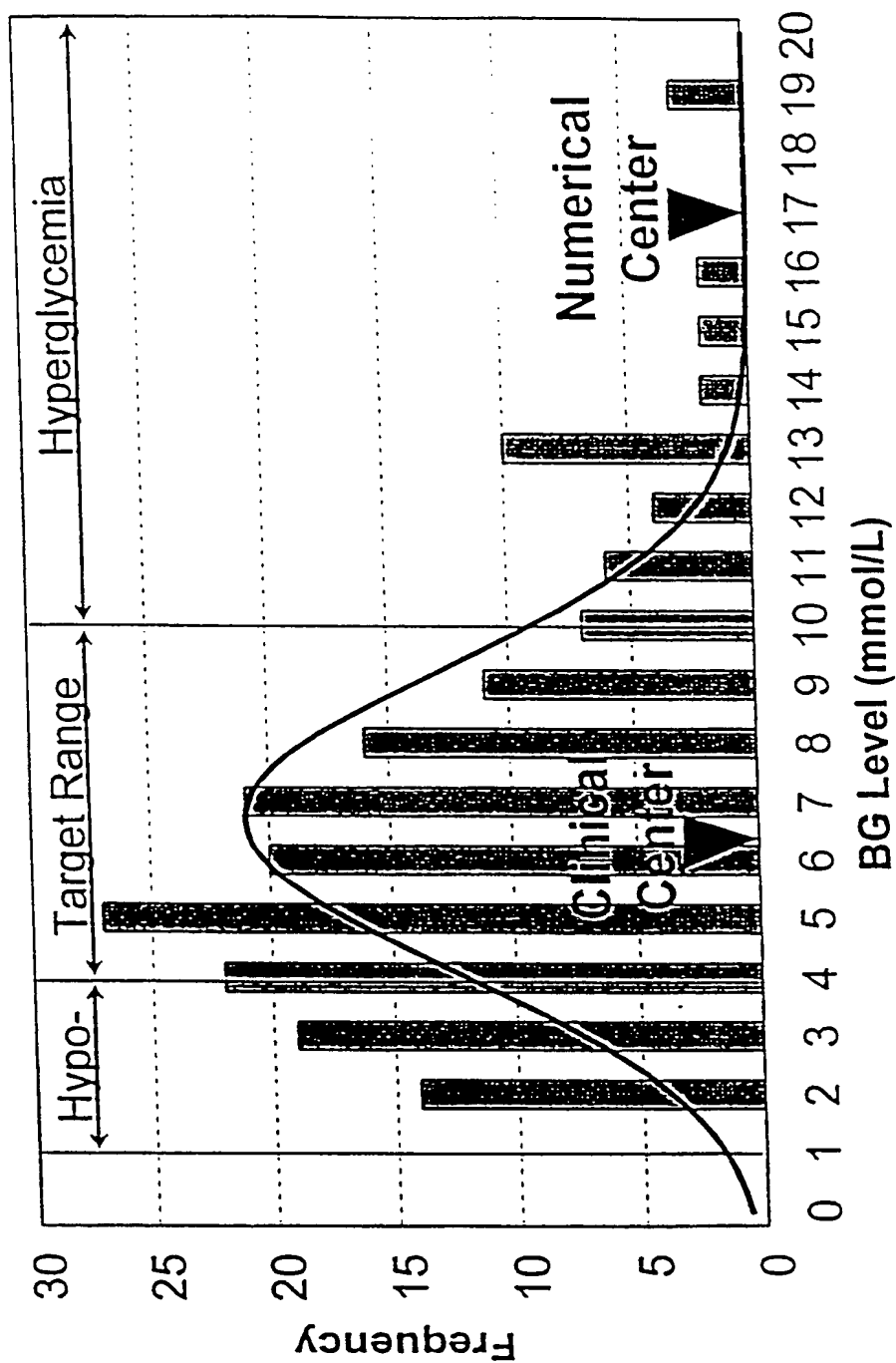


Figure 5: BG Scale Symmetrization Transformation

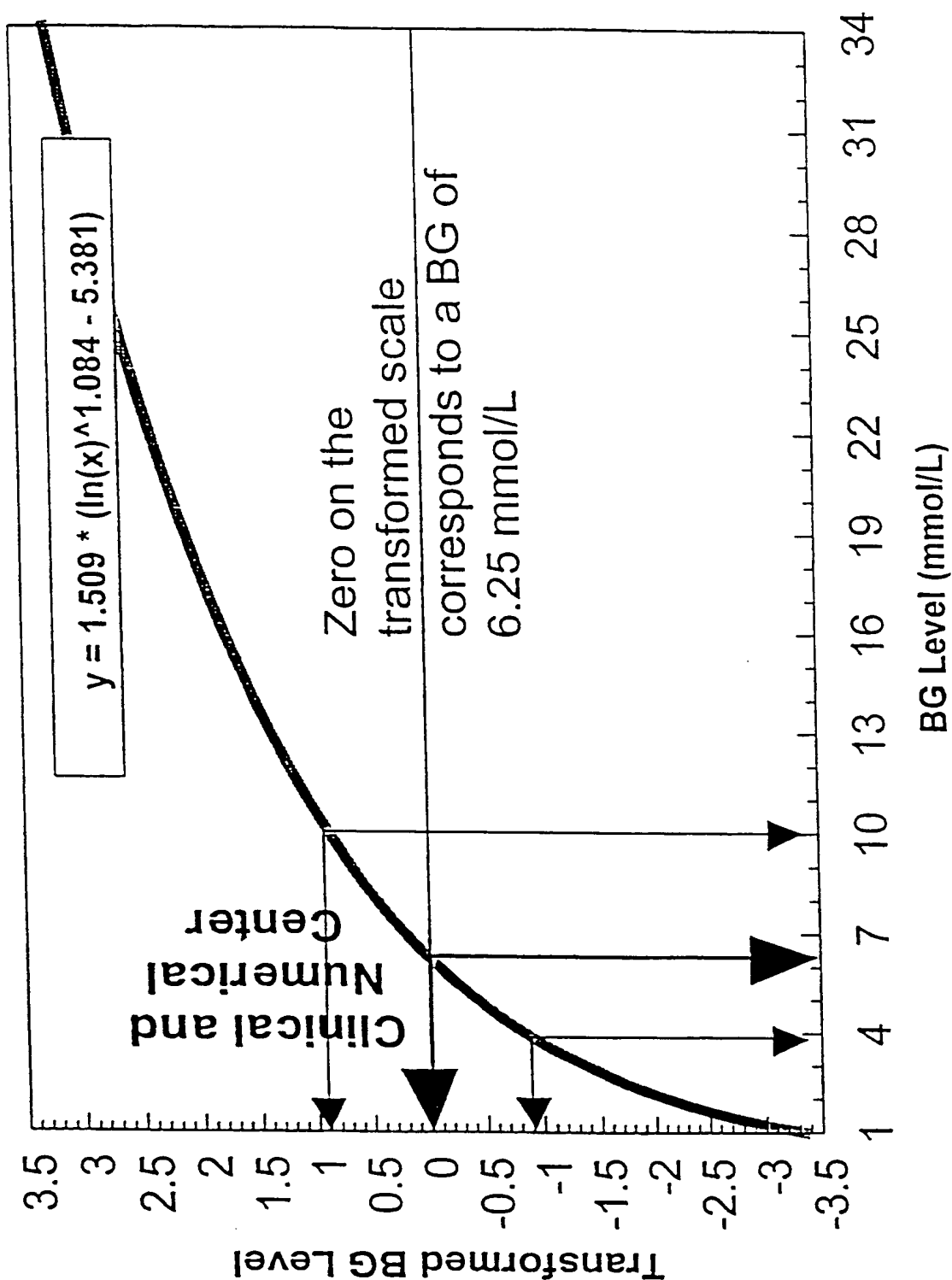


Figure 6: The Distribution of the Transformed BG Readings

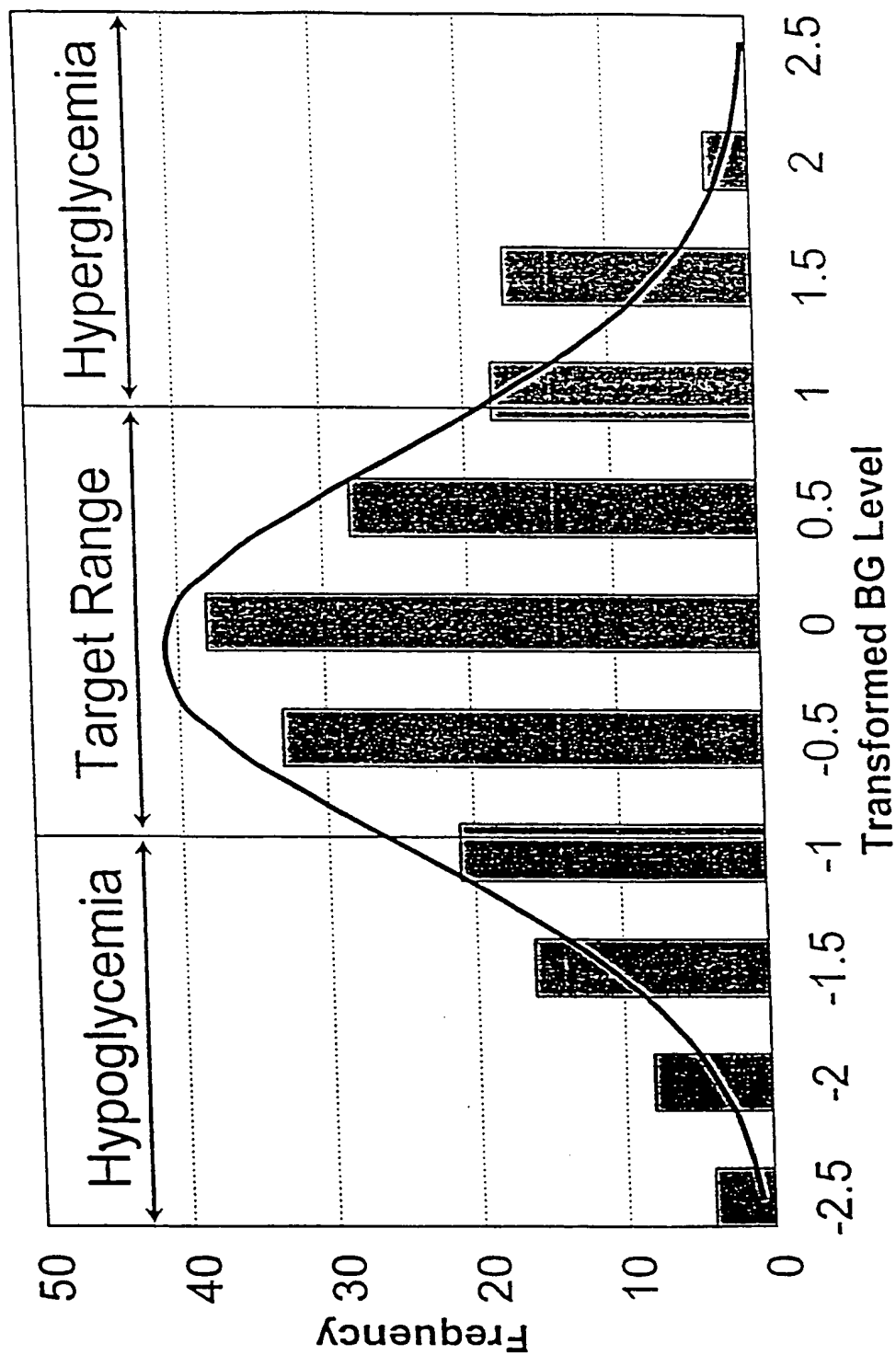


Figure 7 : Defining the BG Risk Function

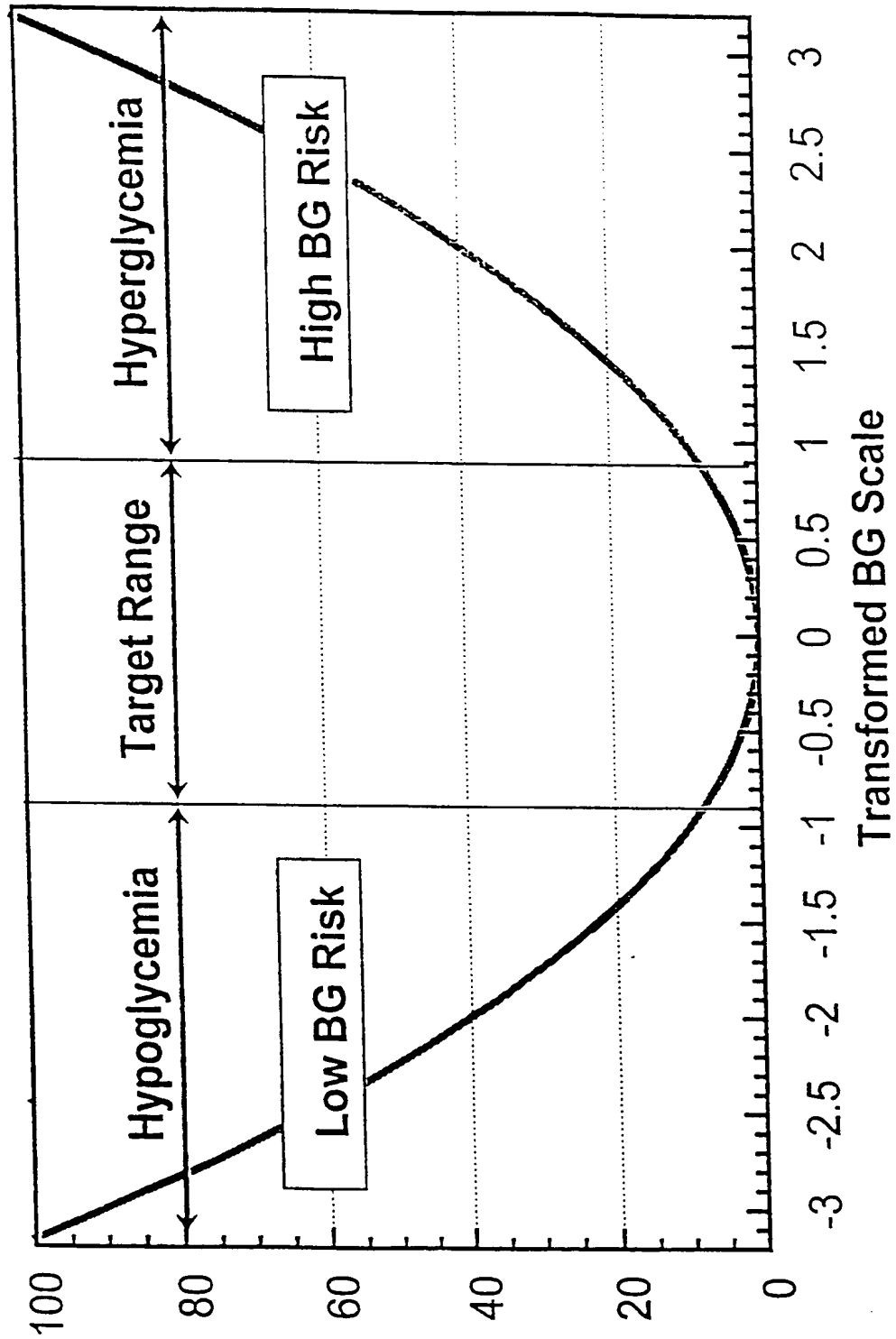
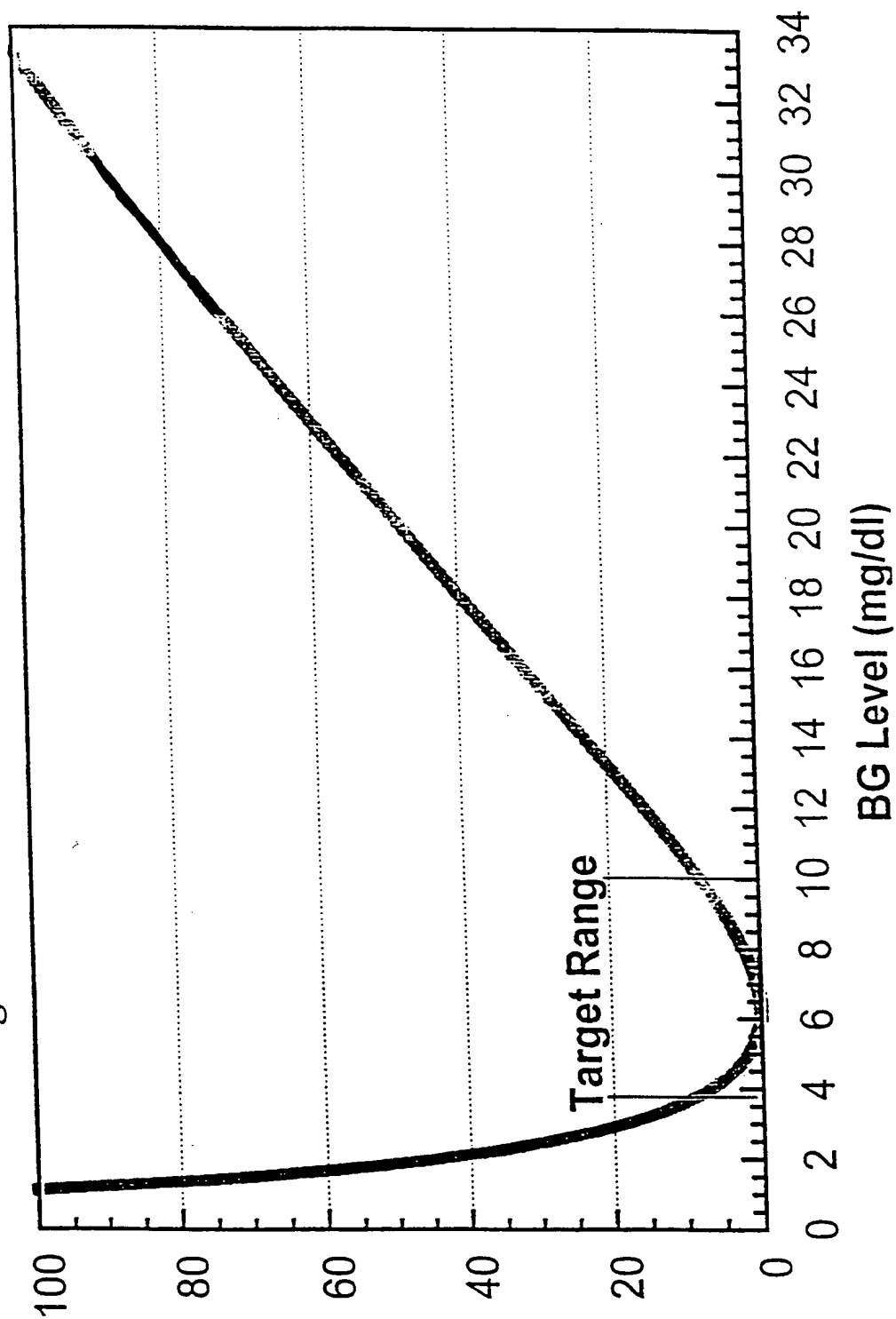


Figure 8 : BG Risk Function (Weighting)



**Figure 9 : Risk Groups Identified by the Low BG Index
and Number of Future SH Episodes**

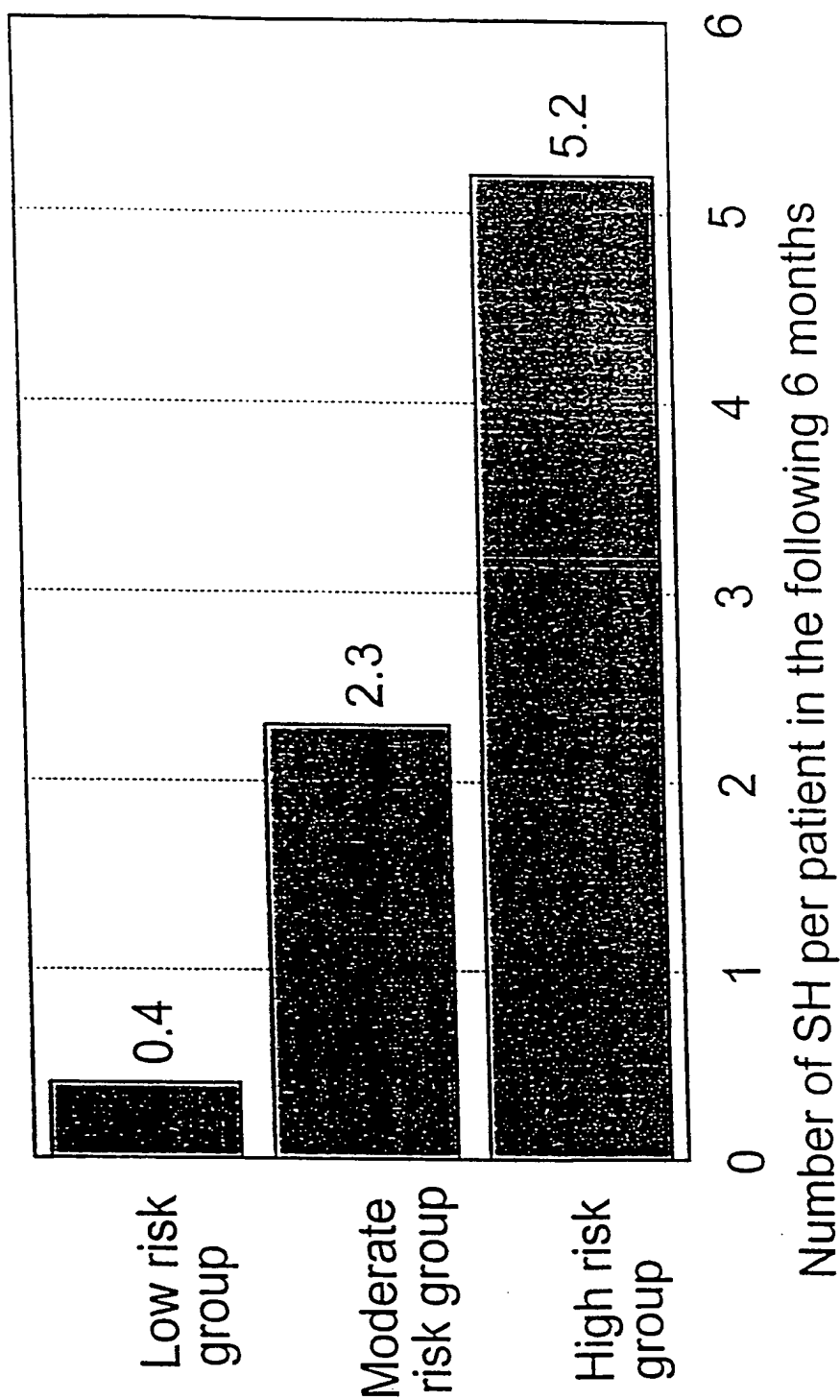
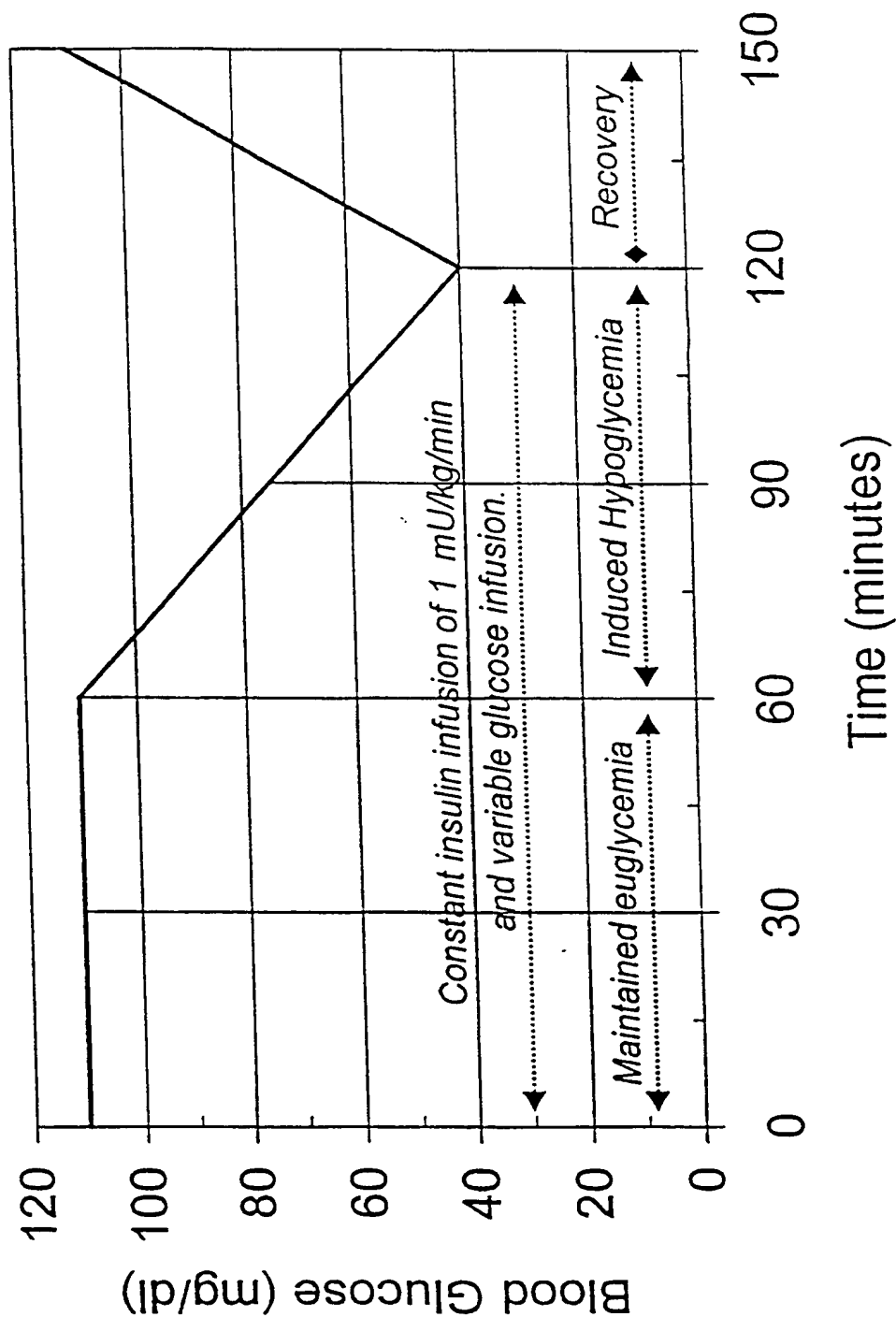


Figure 10:
Hyperinsulinemic Clamp: Design of the Study



**Figure 11: Insulin-Glucose-Counterregulation Network
During Controlled Hyperinsulinemic Clamp**

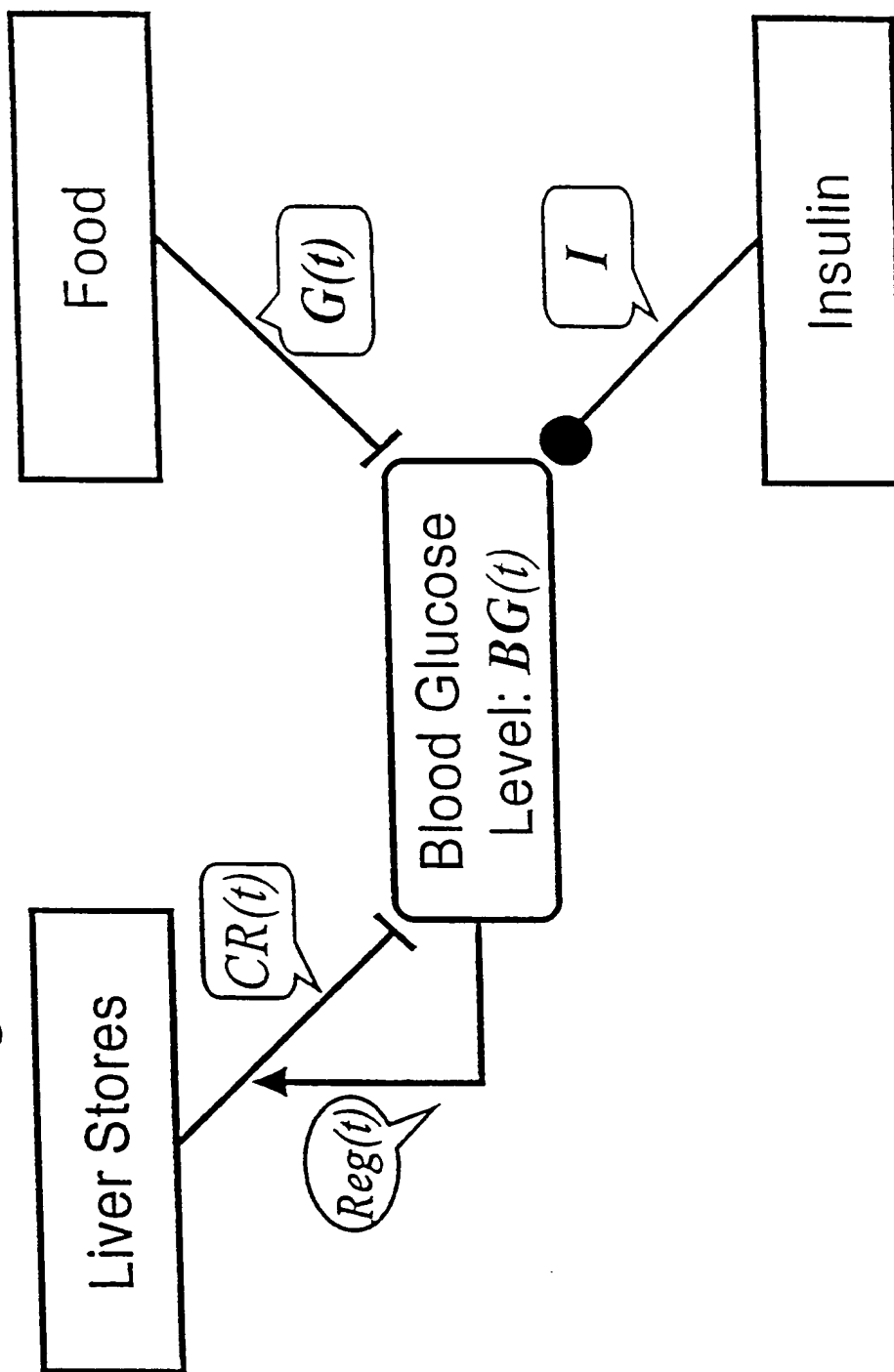


Figure 12. Counterregulation

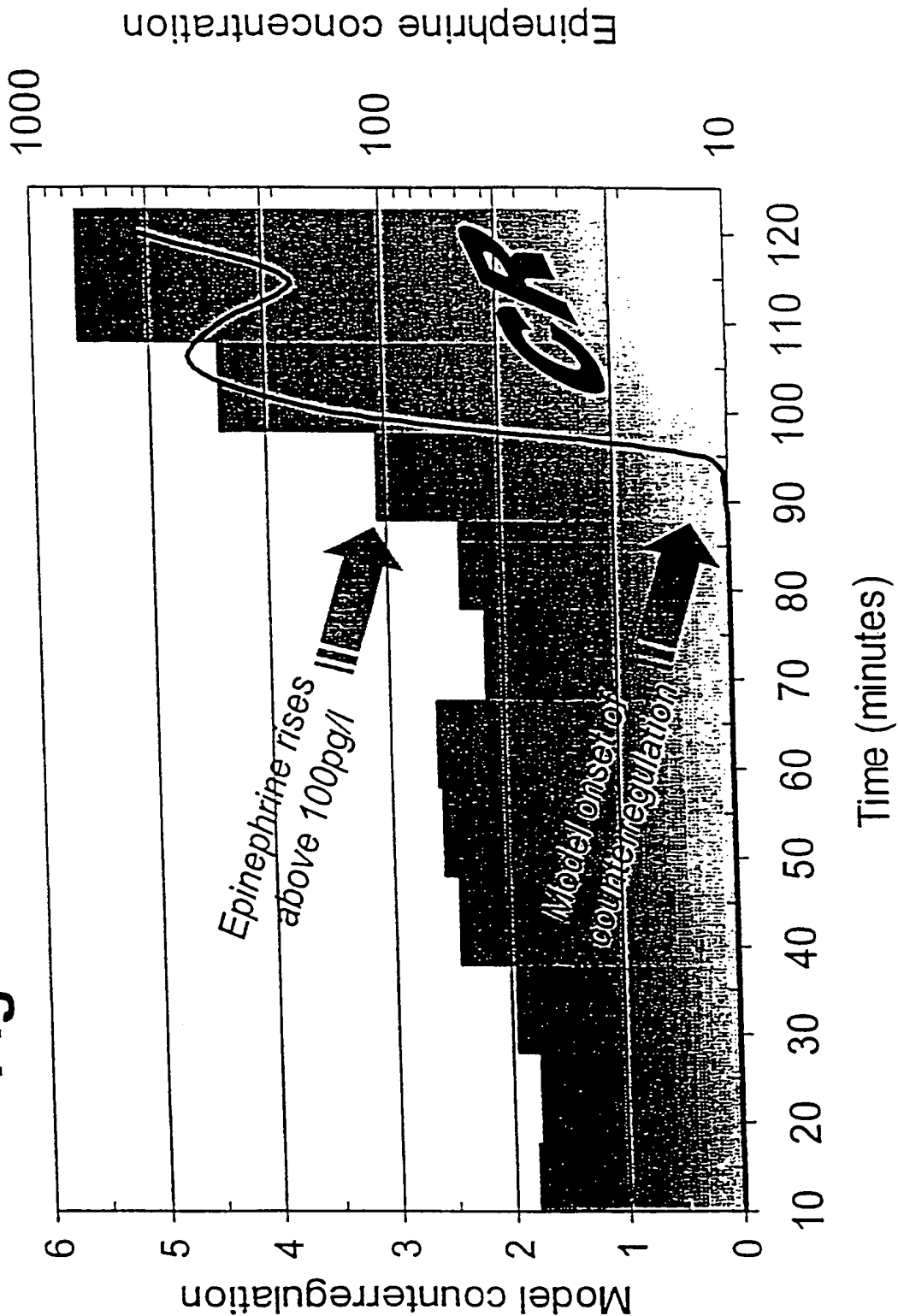


Figure 13: Multi-component Counterregulatory Response to Low BG

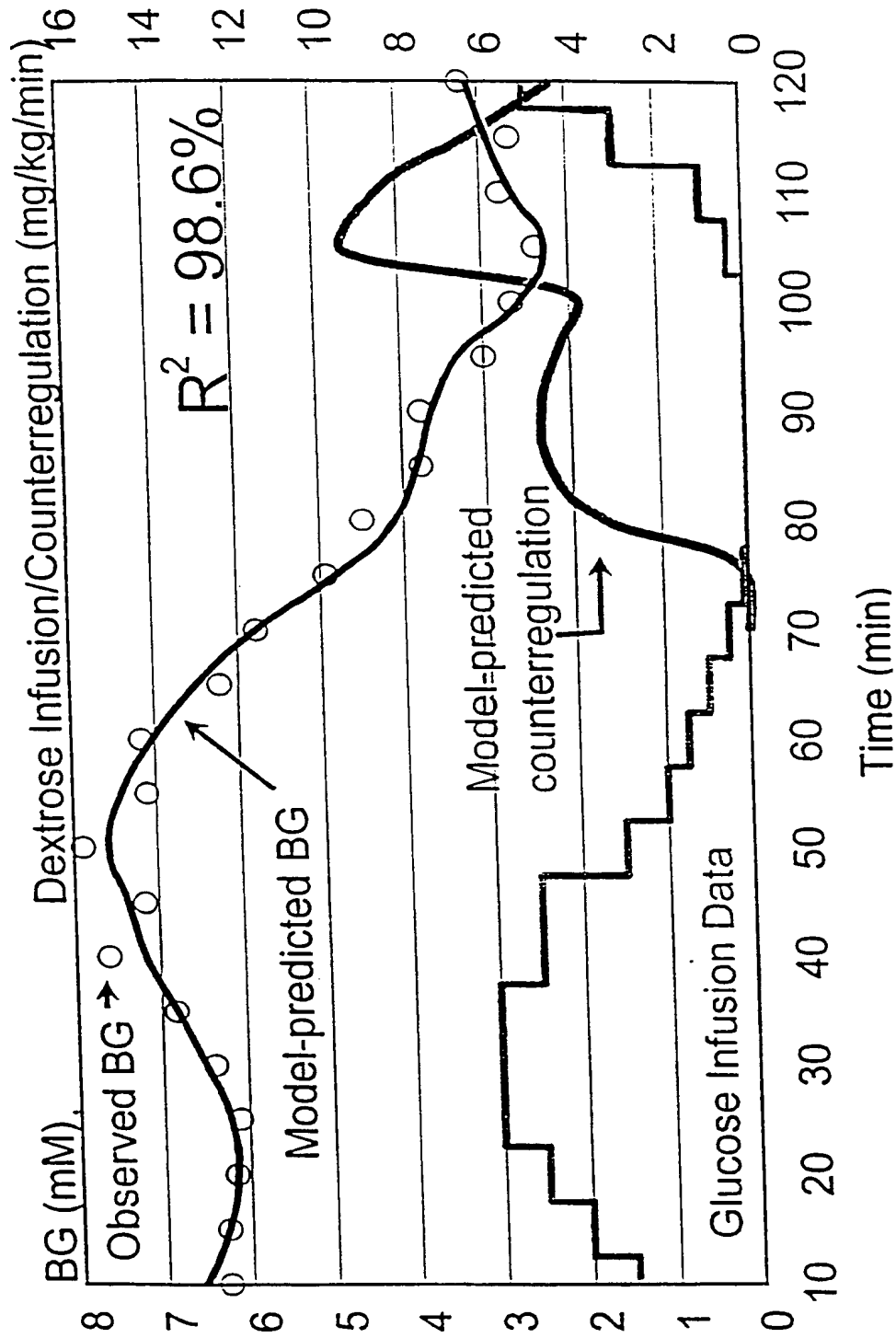


Figure 14: Design of the Hospital Laboratory Study

